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L1: Entry 2 of 7

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Aug 1, 2000

DOCUMENT-IDENTIFIER: US 6096716 A

TITLE: Liposome-mediated transfection of central nervous system cells

DEPR:

Immunohistochemical analyses of neurotrophin receptors p75.sup.NGFR, p140.sup.trkA, p145.sup.trkB may be performed. Antibodies are made to synthetic peptide segments on the different receptors and allow determination of different tyrosine kinase receptors (TRKs) as well as differential staining of full and truncated versions of the different TRKs. Neurotrophins bind with equal affinity to a common low affinity neurotrophin receptor, p75.sup.NGFR whose function is likely to be stimulation of high affinity binding to trk receptors (Chao et al., 1993, Battleman et al., 1993).

*news or
advis*

L4 ANSWER 19 OF 26 MEDLINE
AN 96049666 MEDLINE
DN 96049666

TI Structural and functional properties of the TRK family of **neurotrophin** receptors.

AU Barbacid M

CS Department of Molecular Biology, Bristol-Myers Squibb Pharmaceutical Research Institute, Princeton, New Jersey 08543-4000, USA.

SO ANNALS OF THE NEW YORK ACADEMY OF SCIENCES, (1995 Sep 7) 766 442-58.

Ref:

67

Journal code: 5NM. ISSN: 0077-8923.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, ACADEMIC)

LA English

FS Priority Journals; Cancer Journals

EM 199602

AB The Trk family of tyrosine-protein kinases, TrkA, TrkB, and TrkC, are the signaling receptors that mediate the biological properties of the NGF family of **neurotrophins**. This family of growth factors includes in addition to NGF, BDNF, NT-3, and NT-4. TrkA is the NGF receptor. TrkB serves as a receptor for both BDNF and NT-4, and TrkC is the primary receptor for NT-3. NT-3 is a somewhat promiscuous ligand that can also activate TrkA and TrkB receptors at high concentrations. The trkB and

trkC

genes also encode noncatalytic receptor isoforms of an, as yet, unknown function. In addition to the Trk receptors, the NGF family of **neurotrophins** also binds with low affinity to an unrelated molecule, designated **p75**, a member of the TNF-receptor superfamily. Recently, we have generated strains of mice lacking each of these tyrosine-kinase receptors by **gene** targeting in embryonic stem cells. Characterization of these mutant mice is providing relevant information regarding the critical role that these receptors play in the ontogeny of the mammalian nervous system.

L4 ANSWER 15 OF 26 MEDLINE
AN 97078163 MEDLINE
DN 97078163
TI CRNF, a molluscan neurotrophic factor that interacts with the **p75 neurotrophin** receptor.
AU Fainzilber M; Smit A B; Syed N I; Wildering W C; Hermann; van der Schors
R C; Jimenez C; Li K W; van Minnen J; Bulloch A G; Ibanez C F; Geraerts W P
CS Laboratory of Molecular Neurobiology, Department of Neuroscience,
Karolinska Institute, Berzelius Laboratories Building, Doktorsringen 12A,
S-17177 Stockholm, Sweden.. michael@cajal.mbb.ki.se
SO SCIENCE, (1996 Nov 29) 274 (5292) 1540-3.
Journal code: UJ7. ISSN: 0036-8075.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals
OS GENBANK-U72990; GENBANK-U73114
EM 199702
AB A 13.1-kilodalton protein, cysteine-rich neurotrophic factor (CRNF), was purified from the mollusk *Lymnaea stagnalis* by use of a **binding** assay on the **p75 neurotrophin** receptor. CRNF bound to **p75** with nanomolar affinity but was not similar in sequence to **neurotrophins** or any other known **gene** product. CRNF messenger RNA expression was highest in adult foot subepithelial cells; in the central nervous system, expression was regulated by lesion. The factor evoked neurite outgrowth and modulated calcium currents in pedal motor neurons. Thus, CRNF may be involved in target-derived trophic support for motor neurons and could represent the prototype of another family of **p75** ligands.

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265-1596-1599, 1994

QP356.3.N456

L4 ANSWER 16 OF 26 MEDLINE
AN 97026913 MEDLINE
DN 97026913
TI **Neurotrophin-4: the odd one out in the neurotrophin family.**
AU Ibanez C F
CS Department of Medical Biochemistry and Biophysics, Karolinska Institute, Stockholm, Sweden.
SO NEUROCHEMICAL RESEARCH, (1996 Jul) 21 (7) 787-93. Ref: 49
Journal code: NX9. ISSN: 0364-3190.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LA English
FS Priority Journals
EM 199703
AB **Neurotrophin-4 (NT-4)** is a member of a family of neurotrophic factors, the **neurotrophins**, that control survival and differentiation of vertebrate neurons (2-4). Besides being the most recently discovered **neurotrophin** in mammals, and the least well understood, several aspects distinguish NT-4 from other members of the **neurotrophin** family. It is the most divergent member and, in contrast to the other **neurotrophins**, its expression is ubiquitous and appears to be less influenced by environmental signals. NT-4 seems to have the unique requirement of **binding** to the **low-affinity neurotrophin receptor** (p75LNGFR) for efficient signalling and retrograde transport in neurons. Moreover, while all other **neurotrophin** knock-outs have proven lethal during early postnatal development, mice deficient in NT-4 have so far only shown minor cellular deficits and develop normally to adulthood. Is NT-4 a recent addition to the neurotrophic factor repertoire in search

QPS01.B43
or Adenovirus

L17 ANSWER 80 OF 96 MEDLINE
AN 90365689 MEDLINE
DN 90365689
TI Production, purification and characterization of biologically active recombinant **human** nerve growth factor.
AU Iwane M; Kitamura Y; Kaisho Y; Yoshimura K; Shintani A; Sasada R; Nakagawa S; Kawahara K; Nakahama K; Kakinuma A
CS Biotechnology Research Laboratories, Takeda Chemical Industries, Ltd., Osaka, Japan..
SO BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1990 Aug 31) 171 (1) 116-22.
Journal code: 9Y8. ISSN: 0006-291X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals
EM 199012
AB The **human NGF** gene was isolated and inserted downstream from murine leukemia virus LTR in a plasmid having dihydrofolate reductase **cDNA**. The expression plasmid was introduced into CHO cells. Selection of the transformants for the resistance to methotrexate gave a CHO cell line which produced **human NGF** at a level of 4 mg/L in the culture medium. The recombinant **human NGF** was purified to near homogeneity from the culture supernatant. The NH2-terminal amino acid sequence, the COOH-terminal amino acid (Ala), and the amino acid composition of the **human NGF** were identical to those deduced from the nucleotide sequence of the **human NGF** gene. The recombinant **human NGF** was composed of 120 amino acid residues. Three disulfide linkages were determined to be Cys15-Cys80, Cys-58-Cys108, and Cys68-Cys110; the locations were identical to those in the mouse 2.5S **NGF** molecule. The specific biological activity of the recombinant **human NGF** was comparable with that of authentic mouse 2.5S **NGF** as determined by